AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Allowed) In a graphics system including a graphics processing pipeline that renders and displays images at least in part in response to primitive vertex data and texture data, a texture processing system for mapping a texture to a surface of a rendered image object, said texture processing system comprising:

a texture coordinate/data processing unit that interleaves processing of logical direct and indirect coordinate data;

a texture data retrieval unit connected to the coordinate/data processing unit, the texture data retrieval unit retrieving texture data; and

a data feedback path from the texture data retrieval unit to the texture coordinate/data processing unit to allow reuse of the texture coordinate/data processing unit in the same rendering pass;

wherein in response to a set of indirect texture coordinates the retrieval unit recirculates retrieved texture data back to the processing unit for deriving modified texture coordinates which are used in mapping a texture to a surface of a rendered image object.

2.   (Allowed) The graphics system as set forth on claim 1 wherein the texture coordinate/data processing unit further comprises a set of hardware control logic registers coupled to data lines in the pipeline for receiving data and processing

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command information used to initiate indirect texture referencing and to control multiplication and addition operations for deriving said modified texture coordinates.

Claims 3-30 (Canceled).

31.   (Allowed) In a graphics system including a graphics processing pipeline that renders and displays images at least in part in response to polygon vertex data and texture data stored in a memory, the graphics processing pipeline having a texture subsystem for accessing and retrieving texture, the texture subsystem comprising a texture coordinate/data processing unit having: a) at least one binary data multiplier, at least one binary data accumulator and at least one control register for receiving instruction codes and/or data to control texture coordinate/data processing operations, b) a texture data retrieval unit connected to the coordinate/data processing unit, the texture data retrieval unit retrieving data stored in a texture memory, and c) a data feedback path from the texture data retrieval unit to the texture coordinate/data processing unit to retrieve texture data to the texture coordinate/data processing unit for further processing, wherein processing of direct texture coordinates is interleaved with processing of indirect texture coordinates to retrieve texture lookup data for use in deriving modified texture coordinates, a method for controlling the texture subsystem to perform one or more indirect texture referencing operations comprising the step of utilizing a generalized indirect-texture referencing API command function to place appropriate instruction codes and/or data in said control register(s), wherein said indirect-texture referencing function may be used to at least:

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(i) define up to eight textures stored in a texture memory;

(ii) specify up to eight sets of texture coordinates;

(iii) define up to four indirect texture maps;

(iv) specify up to four indirect texture referencing operations to be performed;

(v) associate one of said eight textures with each indirect texture map; and

(vi) associate one of said eight sets of texture coordinates with each indirect texture maps.

Claims 32-58 (Canceled).

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